

Moscow, Gosudarstvennyy i  
tekhnicheskoy informatsii

PHASE : EXPLOITATION SOV/5409  
A Leninga zavod. Byuro

Sbornik materialov po vakuumnoy tekhnike, vyp. 24. Iz opyta raboty  
osuda tuboplyavkhi metallu (Collection of Materials on Vacuum  
Engineering, no. 24. From the Work Experience of the Refractory  
Metals Section) Moscow, Cosmenergizdat, 1960. 86 p. 600 copies  
printed.

Sponsoring Agency: Gosudarstvennyy soynuznyy Ordena Lenina i Ordena  
Trudovogo Krasnogo Znameni zavod. Byuro tekhnicheskoy informatsii.

Editorial Staff: R.A. Nilenber, Factory Chief Engineer (general  
editing), A.G. Aleksandrov, V.D. Vladimirov, and B.I. Korolev;  
Ed.: I.L. Igiltayn, Tech. Ed.: G. Ye. Laktionov.

PURPOSE: This collection of articles is intended for technical  
personnel engaged in vacuum engineering.

COVERAGE: The booklet contains articles which describe the applica-  
tion of vacuum techniques in various metallurgical processes, some  
methods of regulating the gaseous content of gas-filled tubes, and  
other uses made of vacuum techniques. No personalities are men-  
tioned. References accompany most of the articles.

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AVAILABLE: Library of Congress

Card 3/3

JP/dtk/mas  
8-3-61

69085

S/120/60/000/01/025/051

E192/E382

9.4120

AUTHORS: Ivanov, V.P. and Marshak, I.S.

TITLE: A New Pulse Tube Type IPK15-14 With a Condenserless Supply

PERIODICAL: Pribery i tekhnika eksperimenta, 1960, Nr 1, pp 92 - 94 (USSR)

ABSTRACT: The tube described is illustrated diagrammatically in Figure 2. It consists of the following current-carrying electrodes: the cathode A ; two anodes  $\Gamma$  and  $\Delta$  . The tube is fitted with a gas-discharge tube furnished with two ignition electrodes, which are situated in the vicinity of the cathode and three intermediate electrodes, one of which is situated between the cathode A and the first anode,  $\Gamma$  ; the two remaining intermediate electrodes are situated between the first and the second anodes. The intermediate electrodes are connected to each other and to the anodes through suitable resistances, which are formed by several turns of nichrome wire wound on the discharge tube. The circuit employed for the operation of the tube from the AC mains of 127 V is shown in Figure 3. The circuit

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A New Pulse Tube, Type IFK15-1, With a Condenserless Supply

can also be used at the mains voltage of 220 V. The operation of this circuit is as follows. When the voltage is applied to the system, the condenser C is charged through the rectifier. If the gap  $\bar{G} - B$  (Figure 2) is not ionised, the condenser voltage is insufficient to break down the gap A - D. However, if the operating switch of Figure 3 is closed, a potential difference appears between the electrodes  $\bar{G}$  and B. If at some time an additional positive voltage is applied to the electrodes, the gas is ionised and an intense discharge is produced in the A - B gap. This, in turn, produces the breakdown of the cathode-anode gap, where the discharge current can be as high as 100 A. The discharge continues during one-fourth of the period of the mains frequency. The discharge is extinguished shortly before the mains voltage passes through zero and does not appear again until the capacitor C is sufficiently charged and the contacts CK are closed. The interval

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A New Pulse, Type IFK15-1, With A Condenserless Supply

between the successive operations of the tube should not be less than 10 sec in order to prevent overheating of the tube. The tube can be employed in the photographic work, where pulsed illumination is required and the synchronisation is not particularly important. There are 5 figures, 1 table and 3 references, 2 of which are Soviet and 1 German.

SUBMITTED: November 29, 1958

Card 3/3

MARSHAK, I., kand.tekhn.nauk

Directions of the development of electronic flashlights.

Sov.foto 20 no.7:29 J1 '60. (MIRA 13:7)

(Photography, Flash-light--Equipment and supplies)

MARSHAK, I.; IVANOV, V.

"Zaria," the new electronic flash. Sov.foto 20 no.8:30-31 Ag  
'60. (MIRA 13:8)

1. Moskovskiy elektrolampovyy zavod.  
(Photograph, Flashlight--Equipment and supplies)

S/053/60/071/004/003/004  
B004/B056

AUTHOR: Marshak, I. S.

TITLE: The Electric Breakdown<sup>1)</sup> in Gas at Pressures Which Are Near  
Atmospheric Pressure

PERIODICAL: Uspekhi fizicheskikh nauk, 1960, Vol. 71, No. 4,  
pp. 631 - 675

TEXT: The author defines the following kinds of breakdown: A) Breakdown with small transgression of the static breakdown voltage, not too long spark gaps, low inhomogeneity of the field, and low external ionization; B) Static breakdown in the case of very long spark gaps in an inhomogeneous electric field; C) Pulse breakdown by means of a pulse voltage applied for a short time; D) High frequency breakdown, and E) sparkover with intensive ionization by means of a weak high frequency source. The present paper gives a survey of the theoretical and experimental treatment of breakdowns of the types A) and E). The historical development of the problem is described, and two theoretical schemes of breakdown A) are compared: The Townsend scheme of the build-up of ionization, and the

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The Electric Breakdown in Gas at Pressures  
Which Are Near Atmospheric Pressure

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scheme of the streamer formation, an electron avalanche producing a highly ionized channel. For both schemes the equations are written down and analyzed according to the following criteria: 1) Curvature of the straight line  $\ln j$ ; 2) Agreement between the calculated and experimental data of the breakdown voltage  $U_g$ ; 3) Scattering of the measured values of  $U_g$ ; 4) Dependence of  $U_g$  on the material of the cathode; 5) Dependence of  $U_g$  on the ionization by means of external irradiation; 6) The time necessary for causing the breakdown; 7) Current increase in the individual stages of breakdown; 8) The character of glow in the initial stages of breakdown; 9) The occurrence of the glow discharge phase, and 10) the spatial structure of the breakdown. On the basis of the numerous data in literature, the Townsend scheme was found to correspond better to the experimental results. The difference between a breakdown of the type A) and the breakdowns of the types B) and C) is described in brief, after which a breakdown of the type E) is dealt with. Proceeding from the analogy between ignition voltage and breakdown voltage, a system of equations (5,1) - (5,4) is written down, and a report is given of their

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The Electric Breakdown in Gas at Pressures  
Which Are Near Atmospheric Pressure

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experimental confirmation on the basis of data found in publications. The author mentions several of his own papers, as well as papers written by himself together with I. S. Abramson (Ref. 1) and V. A. Subbotin (Ref. 117). There are 20 figures, 1 table, and 214 references: 13 Soviet, 74 US, 30 British, 9 Dutch, 83 German, 9 Italian, and 2 Japanese. ✓

Card 3/3

FEDOROV, Sergey Alekseyevich, doktor tekhn. nauk, prof.; POKROVSKIY, M.N., prof., retsenzent; MARSHAK, I.S., dotsent, retsenzent; ZVORYKINA, L.N., red. izd-va; SEMELEV, A.I., red. izd-va; SHKLYAR, S.Ya., tekhn. red.

[Sinking and deepening of vertical shafts by the standard method]  
Prokhodka i uglubka vertikal'nykh stvolov shakht (obychnym sposobom). 2. izd. perer. i dop. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1961. 474 p. (MIRA 15:1)

1. Kafedra stroitel'stva gornykh predpriyatiy Moskovskogo gornogo instituta (for Pokrovskiy). 2. Dnepropetrovskiy gornyy institut (for Marshak). (Shaft sinking)

24,3100 (also 1051, 1106, 1163)  
9,2576 (also 1055, 1532)

32192  
S/196/61/000/010/011/037  
E194/E155

AUTHORS: Marshak, I.S., Vasil'yev, V.I., Tokhadze, I.L., and  
Rogatin, N.V.

TITLE: Powerful xenon-tube 'sun' lamps operating without  
ballast

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika,  
no.10, 1961, 11, abstract IOV 89. (Svetotekhnika,  
V7- no.4, 1961, 8-17)

TEXT: It follows from considerations of the physical  
mechanism of impulse discharges in tubular impulse lamps that this  
discharge is quasi-stationary, i.e. it can continue indefinitely  
provided that the current supply is not exhausted and the  
discharge tube is not thermally overloaded. The discharge channel  
is of considerable ohmic resistance (some hundreds of ohms), which  
depends on its geometry and which alters little with the electric  
stress or specific resistance of the plasma. Because of this  
resistance the lamps need no ballast, and the potential difference  
across their electrodes is equal to the supply voltage.  
Experimental data about the specific resistance of plasma and  
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Powerful xenon-tube sun lamps ...

32192

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E194/E155

permissible mean power-loading on the quartz tube walls permit of approximate calculation of the length and diameter of discharge tubes in which discharge, like quasi-stationary discharge in impulse lamps, could continue indefinitely (i.e. be quite steady) provided that it receives supply from a steady electrical system without any series ballast resistance. The comparatively high discharge-extinction voltage in narrow-tube impulse lamps governs the minimum internal diameter of the tube and, consequently, the power per unit length in the case of supply from an a.c. system. From data on impulse tubes fed directly from an a.c. system (without storage capacitor) with a current impulse for one quarter of a cycle, it is found that the minimum internal diameter and power mentioned above are respectively 16-20 mm and 95 W/cm. With supply voltages of 380, 220 and 127 V the minimum power of ballastless a.c. lamps and their lengths should be respectively 15, 8.5 and 5 kW and 156, 90 and 52 cm. D.c. impulse lamps should be smaller in diameter and consequently of lower power. These statements were confirmed by an investigation of prototype discharge lamps of various diameters (16-48 mm), lengths

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Powerful xenon-tube 'sun' lamps <sup>32192</sup>  
S/196/61/000/010/011/037  
E194/E155

(600-3400 mm) and xenon pressures (15-200 mm Hg) made with various kinds of supply (d.c. and a.c. at various voltages) and cooling conditions (natural and forced water cooling). The investigation also gave a more accurate idea of the value of the power load on the tube walls (for an impulse tube operating for 500-1000 hours) and the specific resistance of plasma (when used under steady conditions of low electrical gradient). On comparing these values of ignition voltage and light output of impulse lamps with those obtained in the work for tubes of various parameters, a technical basis was provided for optimum design of ballastless xenon lamps of 20 kW power for a.c. 380 V supply. The principal characteristics of discharge lamps (compared with 20 kW Osram tubular xenon lamps supplied through a ballast reactor, indicated in brackets) are: current 57 A (75 A); light output 29 lumens per watt (25 lumens per watt); circuit power factor 1 (0.73); overall length 1980 mm (1900 mm); tube diameter 27 mm (30 mm); life over 500 hours (over 500 hours). A small starting device such as a Tesla transformer with appropriate switching suffices to start the lamp instead of the large and heavy starting equipment with reactor (approximate weight: copper 50 kg; steel 150 kg) used for German Card 3/4

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Powerful xenon-tube 'sun' lamps . . .

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lamps. The Soviet lamps have metal terminals in quartz (comparatively thin molybdenum foil wound in cylinders) which are easier to make and are more reliable. The principal data for designing similar impulse lamps for other working voltages and powers were determined at the same time. It was found that by increasing the tube diameter and reducing the supply voltage it is possible to increase the light output for a given power (an impulse lamp for 220 V, 16.4 kW has a light output of 33 lumens per watt). By use of water cooling the electrical gradient can be increased, still further increasing the light output (with a gradient of 4 V/cm and internal diameter of 16 mm the light output of the impulse lamp is 38 lumens per watt). Xenon ballastless 'sun' lamps have a mainly continuous almost equal-energy visible spectrum with a weakly expressed maximum at 480 nm (nanometres) which corresponds to a light temperature of 6000 °K. 9 illustrations. 20 literature references.

[Abstractor's note: Complete translation.]

Card 4/4

S/196/62/000/008/015/017  
E114/E135

AUTHORS: Marshak, I.S., Zhil'tsov, V.P., and Shchukin, L.I.

TITLE: Limiting flashing frequency of flash lamps

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.8, 1962, 5, abstract 8 V26. (Svetotekhnika, v.7 no.11, 1961, 13-17).

TEXT: For optical location and communications, computing apparatus, remote control, stroboscopic analysis, for high-speed filming, etc., the electrical-vacuum tube industry produces special flash lamps (strobotrons) intended for frequently repeated flashes. Under certain current supply conditions, standard illuminating flash lamps can also produce rapid successions of flashes and there is a limit flash frequency; if this frequency is exceeded normal operation will cease. The limiting frequency, which is associated with the recovery of the dielectric strength of the discharge gap of the tube, depends on its construction, the applied voltage, the power dissipated in the tube and the shape of the recovery voltage curve in the intervals between

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*Moskovskiy Elektrolampovyy Zavod*

Limiting flashing frequency of ...

S/196/62/000/008/015/017  
E114/E135

discharges. Test equipment and methods of investigation for determining the above relationships are described. These were applied for testing tubular capillary  $\text{VCH 70}$  (ISP 70) and spherical tubes similar to  $\text{VCH 300}$  (ISSh 300). The experimental results are plotted (limiting flash frequency against mean dissipated power, the control circuit parameters and the time required for the recovery of dielectric strength). It is not at present possible to give an exhaustive analysis of the curves obtained. However, it is pointed out that the increase of the operating voltage or of the wall temperature requires longer times of gas deionisation and of recovery of the insulating properties of the internal surfaces of the discharge tube: at higher voltages the time for recovery tends to become shorter. There are 6 figures and 11 references.

[Abstractor's note: Complete translation.]

Card 2/2



21106

6.3000 (2105, 2605, 1051)

S/051/61/010/006/002/002  
E032/E314

AUTHOR: Marshak, I.S.

TITLE: Exploding-wire Continuously-operated Pulsed Light  
Source

PERIODICAL: Optika i spektroskopiya, 1961, Vol. 10, No. 6,  
pp. 801 - 804

TEXT: One of the methods of producing high-intensity light  
flashes is based on the discharge of a large capacitor through  
a thin metal wire. It is stated that published papers  
dealing with exploding wires are largely concerned with the  
physics of the phenomenon but there is practically no published  
information on the practical application of this effect. The  
aim of the present work was to fill this gap in the published  
literature. The difficulty is that it is necessary to provide  
for a continuous replacement of the exploding wires if the  
effect is to be used in a practical light source. A device  
whereby this can be done automatically is illustrated  
schematically in Fig. 1. In this figure, 1 and 2 are  
tubular copper electrodes, 3 is an insulator, 4 is an  
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X

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S/051/61/010/006/002/002  
E032/E314

Exploding-wire ....

enamelled fibreglass thread carrying a tungsten spiral, 5 and 7 are reels of the thread carrying the tungsten spiral, 6 is a spring, 8 is an electric motor, 9 is a capacitor producing the discharge, 10 is a high-tension source and 11 is a key or an auxiliary spark gap. When this key is closed, a part of the tungsten spiral carried by the wire between the electrodes 1 and 2 is instantaneously evaporated and a pulsed discharge occurs in the vapour of the evaporated metal. After the discharge has taken place, the vapour diffuses outwards but the insulating wire carrying the spiral remains unaffected. The motor 8 is then switched on for a short time to bring the next part of the tungsten spiral into the gap between the electrodes. The tungsten spiral in the final version of this device was made of a 1.25  $\mu$  diameter wire and the spiral was wound with a step of 1 mm. This arrangement was successfully used with a continuous displacement of about 30 cm/sec, a tension of about 1 kg and a pulse interval of 1 - 5 sec. Fig. 2 shows the spatial distribution of the time

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21106

Exploding-wire .....

S/051/61/010/006/002/002  
EO32/E314

integral of the discharge channel brightness along the direction perpendicular to the axis of the channel (Curve a). Curve 5 in Fig. 2 shows the angular distribution in the plane passing through the axis of the channel. In these curves the distance between the electrons was 60 mm and the 5.1  $\mu$ F capacitor was charged to 30 kV. There are 3 figures and 16 references: 7 Soviet and 9 non-Soviet.

SUBMITTED: September 30, 1960

Card 3/43

VASIL'YEV, V.I.; LEVCHUK, M.S.; MARSHAK, I.S.

Duration of the flash of tubular pulse lamps. Opt.i spektr. 11  
no.1:118-122 J1 '61. (MIRA 14:10)  
(Electric lamps) (Oscillography)

S/196/62/000/020/008/021

E194/E155

AUTHORS: Marshak, I.S., Vasil'yeva, V.I., and Vasserman, A.L.

TITLE: 'Sirius': the most powerful tubular xenon lamp in the world

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.20, 1962, 6, abstract 20 V 31. (Svetotekhnika, no.3, 1962, 7-13).

TEXT: The construction and characteristics of a 100 kW xenon lamp developed in the Moskovskiy elektr.-lampovyy zavod (Moscow Electric Lamp Works) are fully described. When operating with water-cooling, the luminous output of the lamp corresponds to a power per unit length of 1100 W/cm, reaching 50 lumens per watt. The lamp operates without ballast and uses a starting device similar to that previously developed for xenon lamps types ДКСТ-20000 (DKST-20000). The lamps were tested in a special experimental rig set up in the engineering pavilion of the Exhibition of Achievements of the National Economy. This equipment consisted of three lamps of output up to 100 kW connected in the  
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'Sirius': the most powerful ...

S/196/62/000/020/008/021  
E194/E155

phases of a three-phase a.c. 380/220 V supply. The lamps were physically positioned in a star-pattern with mirror reflectors joined together in a unit mobile construction installed in the dome of the pavilion. The lighting is remote-controlled from a panel in a room of the pavilion. Cooling water for the lamps was pumped to the lighting fitting; to avoid overheating a water-pressure relay disconnected the lamps if the water pressure fell below 0.4 atm. The experimental equipment confirmed the possibility of using high-power ballastless xenon lamps with water cooling for illumination.  
6 illustrations. 6 references.

[Abstractor's note: Complete translation.]

Card 2/2

243100

S/120/62/000/003/001/048  
E032/E114

AUTHOR: Marshak, I.S.

TITLE: Pulsed sources of light (A review)

PERIODICAL: Priory i tekhnika eksperimenta, no.3, 1962, 5-21

TEXT: This is a brief review covering the period 1955-1961. Both Western and Soviet work is considered. The subject matter is discussed under the following headings: 1) range of application and types of pulsed lamps; 2) limits of variation of supply parameters; 3) characteristics of light flashes.

A table giving the numerical characteristics of the following Soviet lamps is reproduced:  $\text{V}\Phi\text{K}$  (IFK) 5, 15, 20, 50, 120, 500, 2000, 20000, 80000;  $\text{V}\Phi\text{K}$  (ISK) 10, 25, 250;  $\text{V}\Phi\text{P}$  (IFP) 200, 500, 1000, 4000, 15000;  $\text{V}\Phi\text{B}$  (IFB) 300;  $\text{V}\Phi\text{T}$  (IFT) 200;  $\text{V}\Phi\text{S}$  (ISP) 5, 10, 15, 70;  $\text{V}\Phi\text{H}$  (ISSh) 15, 100-1, 100-2, 100-3, 300 and 500. Typical characteristics are shown in graphical form for some of these lamps.

There are 19 figures and 1 table.

SUBMITTED: December 25, 1961

Card 1/1

39871

S/051/62/013/002/011/014  
E202/E492

24.3100

AUTHORS: Kirsanov, V.P., Gavanin, V.A., Marshak, I.S.  
TITLE: Brightness of tubular and spherical pulse lamps  
PERIODICAL: Optika i spektroskopiya, v.13, no.2, 1962, 276-280  
TEXT: Brightness amplitude B of the discharge channel of tubular and spherical gas filled pulse lamps of serial production was measured and compared. The instrument used was calibrated by means of a standard incandescent lamp and a two-cathode constant brightness carbon arc, which gave discrepancies in measurements not exceeding 2%. The average brightness values were taken by averaging 20 corrective readings. In the case of tubular lamps the authors have developed an empirical relation

$$\frac{B}{\left(\frac{\eta}{\eta_{\max}}\right)^2} = \frac{E^{0.9}}{30} \quad (2)$$

which is applicable to a large variety of tubular pulse lamps of Card 1/2



Brightness of tubular ...

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E202/E492

different parameters (  $B$  , the amplitude brightness, is in volt gradient and  $E$  is in volt/cm). Spherical pulse lamps similar to type ИСШ100-3 (ISSh100-3) are discussed. Their space-time distribution of brightness was complicated by the lowering of the brightness of the discharge column near the cathode and other variations during different stages of discharge. The dependence of  $B$  on the supply voltage  $U$  was studied in lamps filled with various gases and having various discharge and circuit inductances. It was found that  $B_{0.9}$  is inversely proportional to the cubic root of the atomic weight of the gas and that for inert gases values of  $U_{0.9}$  ( $U_{0.9}$  is the supply voltage at which  $B = 90\%$  of maximum value) are approximately inversely proportional to their atomic weights. There are 2 figures.

SUBMITTED: October 18, 1961

Card 2/2

11539  
S/051/62/013/003/011/012  
E075/E436

7.2.76

AUTHORS: Kirsanov, V.P., Marshak, I.S., Epshteyn, M.I.

TITLE: New data on the spectral characteristics of impulse lamps

PERIODICAL: Optika i spektroskopiya, v.13, no.3, 1962, 442-446

TEXT: The object of the work was to provide additional data on the effect of constructional details and feeding parameters of the lamps on the spectral distribution. The spectra were split into narrow sections by the method of B.M.Vodovotov and M.I.Epshteyn (Usp. nauchn. fotogr., 6, 35, 1959). The spectral distributions  $\eta_\lambda$  of the lamps with very narrow (capillary) discharge tubes and wide (ball) bulbs were measured for different feeding regimes. It was shown that the spectrum did not change when the capacity of the feed condenser was increased 5 times and the feed intensity 1.5 times. The spectrum changes were observed in the short wave region only when the feeding regime was considerably altered. Substantial decrease in the interior diameter of the discharge tube (from 5 to 0.5 mm) did not affect much the character of spectral distribution. The pressure and nature of gas in the  
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New data on the spectral ...

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E075/E436

lamp also did not alter the spectrum, influencing only the absolute value of  $\eta\lambda$ . The lighter inert gases possess considerably lower intensity of irradiation in the wavelength region above 900 millimicrons. There are 6 figures and 1 table.

SUBMITTED: July 1, 1961

Card 2/2

MARSHAK

Z/019:62/019-007 002 004  
1037/1237

AUTHORS. Marsák, I. S., Ziljcov, V. P. and Scukin, L. I

TITLE: average frequency of sparking discharge lamps

PERIODICAL Přehled technické a hospodářské literatury, 1961 XI, Vestn Elektroprom 32, no. 11,  
no. 7, v. 19, 1962, 322 Item no. E 62-4359

TEXT: Experimental study of highest possible frequencies of repeating sparking of Xenon discharge lamps for stroboscopic studies etc. Purposes: circuits used, discharge lamps and working methods, experimental results (frequency of 12 k cycles reached), interdependence of electrical and optical parameters. There are 1 schematic design, 5 diagrams, 11 references.

1961 XI, Svetotechnika 7, no. 11, p. 13-17.

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S/053/62/077/002/002/004  
B117/B138

AUTHOR: Marshak, I. S.

TITLE: Heavy-current pulse (spark) discharges in gases used in pulsed light sources

PERIODICAL: Uspekhi fizicheskikh nauk, v. 77, no. 2, 1962, 229 - 286

TEXT: This is a survey of Western and Soviet papers published during the last 10 - 15 years on progress made in experimental and phenomenological investigations of heavy-current spark discharges in gases. It continues the survey of spark-over in gas at near atmospheric pressures (I. S. Marshak, UFN 71, 631 (1960)). Subjects: (1) Electric parameters of discharge: voltage in the gas gap; current intensity and density in the discharge; resistance (or conductance) of the discharge channel; (2) expansion of the discharge channel and accompanying gasdynamic processes; (3) characteristics of discharge radiation: light intensity; brightness; spectral composition; (4) Processes near the electrodes: ionization of the gas; formation of volume charges; electron emission from the cathode and conditions of their bombardment with plasma particles; thermal diffusion in electrodes, melting, evaporation and atomization of the electrode

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Heavy-current pulse (spark) ...

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B117/B138

material, as well as resulting blackening of the lamp bulb. There are 28 figures, 9 tables, and 220 references: 97 Soviet-bloc and 123 non-Soviet-bloc. The four most important English-language references are: H. E. Edgerton, Electronic Equipment Engng. (1958); H. Fischer, Confer. Extremely High temperatures, J. Wiley, N. Y. - Chapman, Ltd. 1958 p. 11; J. M. Somerville, G. F. Williams, Proc. Phys. Soc. 76, 309 (1959); G. Taylor, Proc. Roy. Soc. A201, 159 (1950). ✓

Card 2/2

MARSHAK, I. S.; VASILYEV, V. I.

"Physical and Technical Characteristics of the Gas Discharge in  
Tubular Xenon Lamps"

Sixth International Symposium on Ionization Phenomena in Gases  
Paris, France, 8-13 July 1963

AM4037188

BOOK EXPLOITATION

s/

Marshak, Immanuel' Samoylovich

Pulse light sources (Impul'snyye istochniki sveta), Moscow, Gosenergoizdat, 1963, 335 p. illus., biblio. Errata slip inserted. 5,500 copies printed.

TOPIC TAGS: gas discharge pulse light source, light, pulse lamp, electronics, automation, optics, photography, polygraphy

PURPOSE AND COVERAGE: The book considers problems of the physical theory of pulse discharge, the basic parameters and design features of pulse gas discharge light sources, that have found broad use in electronics and automation, optical communications, photography, polygraphy, etc. Typical circuitry of pulse light sources are included. The book is intended for engineers and light technicians and engineers employed in the technologies mentioned.

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MARSHAK, I.S., kand.tekhn.nauk; KIRSANOV, V.P., inzh.; RAZUMTSEV, V.F.,  
inzh.; SHCHUKIN, L.I., inzh.

Light emission and flash duration of bulb-type discharge lamps.  
Svetotekhnika 9 no.1:12-18 Ja '63. (MIRA 16:1)

1. Moskovskiy elektrolampovyy zavod.  
(Electric lamps) (Fluorescent lamps)

MARSHAK, I.S., kand. tekhn. nauk; VASIL'YEV, V.I., inzh.; TOKHADZE, I.L.

Small balastless tubular xenon lamp with water cooling.  
Svetotekhnika 9 no.11:13-17 N '63. (MIRA 16:12)

1. Moskovskiy elektrolampovyy zavod.

LINDORF, L.S., kand. tekhn. nauk; MARSHAK, I.S., inzh.

Automation of the self-starting operation of the synchronous  
motors of pumping stations. Prom. energ. 18 no.3:11-16  
Mr '63. (MIRA 16:6)

(Pumping machinery, Electric)  
(Electric motors—Starting devices)  
(Pumping stations—Electric equipment)

ILYUSHIN, S.V.; IPATOVA, S.I.; KONVALOV, F.S.; LORENTSSON, I.G.; MAISHAK, I.S.;  
MESHKOV, V.V.; NILENDER, P.A.; PLOKHOTSKIY, Ye.S.; SOKOLOV, I.I.  
SOUSTIN, V.F.; TSVETKOV, G.M.; YANI, A.K.

Viktor Nikolaevich Pomin, 1904- ; on his 60th birthday. Svetotekhnika  
10 no.11:30 N '64. (MIRA 17:12)

1 11064-66 EWT(m)/ENP(t)/ENP(b) LJP(c) JD

ACC NR: AT6001990

SOURCE CODE

UR/3180/64/009/000/0093/0105

AUTHOR: Marshak, I. S.; Shchukin, L. I.

ORG: none

TITLE: New data on the physical parameters and performance characteristics of flash lamps

SOURCE: AN SSSR. Komissiya po nauchnoy fotografii i kinematografii. Uspekhi nauchnoy fotografii, v. 9, 1988. Vysokoskorostnaya fotografiya i kinematografiya (High-speed photography and cinematography), 93-105

TOPIC TAGS: flash lamp, xenon, krypton, argon, gas discharge

ABSTRACT: Continuing their studies of the physicochemical characteristics of flash lamps, the authors investigated extreme cases of construction of flash lamps and parameters of their supply, namely, lamps with the most confined discharge channel (capillary lamps, used particularly in schlieren photography) and with unconfined discharges (lamps with a spherical bulb having the maximum brightness, minimum flash duration and the most compressed luminous volume). In the latter case, particular attention was concentrated on attaining the maximum speed of penetration of energy into the discharge channel by reducing the inductance of the discharge circuit. The lamps were filled with xenon, krypton, and argon. It was found that flashes lasting

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L 11064-65

ACC NR: AT6001390

0.3  $\mu$  sec and having a frequency of 5 kc at an average dissipated power of 1 kw can be obtained with spherical lamps without a commutating device in the discharge circuit. In conclusion, the authors thank V. I. Vasil'yev, V. P. Zhil'tsov, B. V. Sivertsov, R. G. Vdovchenko, V. F. Razumtsev, A. I. Mironova, N. S. Levchuk, N. I. Spehteyn, and S. A. Yakubovich who participated in assembling the extensive experimental material presented. Orig. art. has: 22 figures, 2 tables, 6 formulas.

SUB CODE: 13.20

SUBJ DATE: 00/

ORIG REF: 009/

OTH REF: 001

Card 2/2

L 1P059-66

ACC NR: AT6001392

SOURCE CODE: UR/3180/64/009/000/0109/0114

AUTHOR: Kirsanov, V. P.; Zhil'tsov, V. P.; Marchak, I. S.; Razumtsev, V. F.;  
Slutskin, Ye. Kh.; Shchukin, L. I.

ORG: none

31  
B+1

TITLE: New flash lamps with a high flash repetition frequency

SOURCE: AN SSSR. Komissiya po nauchnoy fotografii i kinematografii. Uspekhi nauchnoy  
fotografii, v. 9, 1964. Vysokoskorostnaya fotografiya i kinematografiya (High-speed  
photography and cinematography), 109-114 and inserts facing pages 112 and 113

TOPIC TAGS: flash lamp, gas discharge, hydrogen, xenon, nitrogen

ABSTRACT: The paper describes the design and performance characteristics of high-  
repetition-frequency sealed flash lamps for use in high speed photography. Two  
sources of frequently repeating flashes were considered: (1) a source for Toepler  
schlieren photographs with a maximum space stabilized luminous volume in the shape  
of a short filamentary segment; (2) a source for photographing objects in reflected  
light with maximum power and frequency of flashes. The first problem was solved most  
satisfactorily with a short capillary lamp. The second problem was solved with lamps  
having a large spherical bulb and a short discharge gap between the electrodes located  
inside the bulb. In addition, a rapidly deionizing multichamber hydrogen dis-

Cord 1/2

L 11069-66

ACC NR: AT6001392

charger was constructed in order to provide for the commutation of the repeating high current discharges at the maximum frequencies at which the gas gaps of both types of flash lamps are unable to deionize and cannot themselves serve as the commutating element. Orig. art. has: 10 figures, 1 table.

SUB CODE: /3,20 SUBM DATE: 00/ ORIG REF: 004/ OTN REF: 001

Card 2/2



1 15281-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD  
 ACC NR: AT6001401 SOURCE CODE: UR/3180/64/009/000/0159/0166  
 AUTHOR: Marshak, I. S.; Vasil'yev, V. I.; Vasserman, A. L.; Tokhadze, I. L.  
 ORG: none  
 TITLE: Superpower ballastless tubular xenon lamps as a new kind of efficient sources for high-speed cinematography  
 SOURCE: AN SSSR. Komissiya po nauchnoy fotografii i kinematografii. Uspekhi nauchnoy fotografii, v. 9, 1964. Vysokoskorostnaya fotografiya i kinematografiya (High-speed photography and cinematography), 159-166  
 TOPIC TAGS: light source, high speed photography, xenon lamp  
 ABSTRACT: Following a brief outline of the historical development of xenon high-density discharge tubes the authors present a survey of theoretical and experimental data on superpower ballastless xenon lamps which may be used for high-speed cinematography. Scientific literature and experiments carried out by the authors are used to discuss: 1) the dependence of the specific resistance of tubular lamps on the electric gradient for various lamp parameters and cooling conditions; 2) light emission intensity as a function of power per unit length of the discharge; 3) the voltage drop across lamps of different lengths for the same current; 4) characteristics of continuously operating xenon tubular lamps of different power; 5) the circuitry for igniting ballastless xenon a-c lamps; 6) a circuit diagram of devices for the switching of xenon tubes into brief high-overload operating condition; 7) the maximum power liberated  
 Card 1/2

L 15281-66

ACC NR: AT8001401

2  
5  
within the tube as a function of the length of operation under overload conditions; and 8) the spectral distribution of the radiation from tubular xenon lamps. The authors thank N. V. Rogatin, V. A. Suvorov, T. M. Gorya, I. P. Orekhov, V. B. Milenin and other comrades for their extensive participation in this work. Orig. art. has: 10 formulas, 7 figures, and 1 table.

SUB CODE: 14 / SUBM DATE: none / ORIG REF: 011 / OTH REF: 004

Cord

2/2

MJS

MARSHAK, M.

Improve the quality of dental prostheses. Zdrav. bel. 8  
no.1:75 Ja '62. (MIRA 15:3)  
(TEETH, ARTIFICIAL)

SOV/142-58-5-12/23

9(9)

**AUTHORS:** Pistol'kors, A.A., Marshak, M.L.

**TITLE:** On Reflexion and Refraction of Electromagnetic Waves at the Boundary of Air-Ferrite in a Rectangular Wave Guide

**PERIODICAL:** Izvestiya vysshikh uchebnykh zavedeniy - radiotekhnika, 1958, Nr 5, pp 594-598 (USSR)

**ABSTRACT:** The article discusses the reflexion and refraction of high type waves (waves  $H_{10}$ ) on the boundary of air. It also discusses slightly magnetized ferrite by a transverse field. It is shown, that these phenomena can be neglected. The authors state, that the article of Sharpe and Heim does not overlap the results of this article (Ref.3). The article is recommended by the Institut radio-tekhniki i elektroniki AN SSSR (Institute of Radio Engineering and Electronics AS USSR). There are 1 figure, 1 table, 13 equations and 3 references, 1 of which is Soviet and 2 English.

**SUBMITTED:** July 4, 1958

Card 1/1

9(9)

SOV/142-58-6-15/20

AUTHORS: Pistol'kors, A.A., and Marshak, M.L.

TITLE: Passage of Electromagnetic Waves in a Waveguide Through a Weakly Gyromagnetized Plate (Prokhozheniye elektromagnitnykh voln cherez slabo gyrotropnyu plastinku)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Radiotekhnika, 1958, Nr 6, pp 731-738 (USSR)

ABSTRACT: The passage of electromagnetic waves through a weakly gyromagnetized plate in a waveguide of rectangular cross-section in a transverse magnetic field is theoretically investigated by the authors in this article. The problem is diagrammed (Figure 1), and the balance of the article is devoted to a detailed mathematical analysis of the problem. Determination of the transmission coefficient, and the coefficient of reflection of the fundamental wave are of prime importance. The coefficient of reflection is plotted as a function of the magnetizing field for various waveguide wall thickness

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SOV/142-58-6-15/20

Passage of Electromagnetic Waves in a Waveguide Through a Weakly Gyromagnetized Plate

(Figures 2-5). Computations show that with a ferrite plate of sufficient thickness almost complete reflection from the plate can be obtained, even with a small controlling magnetic field. This article was recommended by the Institut radiotekhniki i elektroniki A SSSR (The Institute of Radio Engineering and Electronics of the AS USSR). There are 4 graphs, 1 diagram and 2 Soviet references.

SUBMITTED: July 4, 1958

Card 2/2

1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
MARSHAK, M. S.																													
<p>Prophylactic significance of fish oils for the so-called grip illness. M. S. Marshak, V. L. Ostrovskii and R. N. Ilevinskaya. <i>Doklady Akad. Nauk SSSR</i>, No. 6, 45-47 (1970). Fish oils in the diet decrease the no. of light cubs (without loss of work), but not of serious cubs (incapacity for work). P. H. Rothmann</p>																													
ASB-31A METALLURGICAL LITERATURE CLASSIFICATION																													
SOURCE										100000-1000000										1000000-10000000									
1000000-10000000										10000000-100000000										100000000-1000000000									

1ST AND 2ND COORDS		PROCESS AND PROPERTIES INDEX		3RD AND 4TH COORDS	
<p>Composition of therapeutic diets for evacuation hospitals            M. S. Marshak, <i>Ukrainian</i> 10, No. 5 6,            37 (1947). Daily diets are listed varying in compo-            sition according to the type of injury, and parts of the body            involved. E. Laanes</p>					
<p>ASD-SEA METALLURGICAL LITERATURE CLASSIFICATION</p>					
1ST COORDS		2ND COORDS		3RD COORDS	
1ST COORDS		2ND COORDS		3RD COORDS	



MARSHAK, M.S.; BLOKH, R.L.

[Short reference book on therapeutic feeding] Kratkii spravochnik po lecheb-  
nomu pitaniu, pri uchastii: P.L. Blokh [i dr.] Moskva, Medgiz, 1951. 207 p.  
(MLRA 6:9)  
(Diet in disease)

MARSHAK, M.S.; PARMONOVA, E. G.; BORINSKAYA, E. N.

Treatment of hypertension in the night sanatorium in industrial project. Sovet. med. no.10:22-23 Oct 1951. (CLML 21:1)

1. Prof. Marshak. 2. Of the Clinic for Therapeutic Nutrition (Director -- Prof. M. I. Pevsner), Institute of Nutrition of the Academy of Medical Sciences USSR and the Medico-Sanitary Section of Krasnyy Proletariy Plant.

MARSHAK, M.S.

Certain problems in modern organization of therapeutic dietetics.

Nov. med., Moskva No. 22:66-70 1951.

(CJML 21:5)

1. Professor.

MARSHAL, M.S.

Diet in Disease

"Short Manual of Diet Therapy." Klin. med. 30 No. 1, 1952. Reviewed by V. P. Sokolovskiy.

MONTHLY LIST OF RUSSIAN ACCESSIONS. Library of Congress, May 1952. UNCLASSIFIED.

**MARSHAK, M.S., professor.**

Some problems in nutrition. Est.v shkole no.6:93-94 '53. (MLRA 6:10)

1. Klinika lechebnogo pitaniya Instituta pitaniya Akademii meditsinskikh nauk  
SSSR. (Nutrition)

MARSHAK, M. S.

256T35

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USSR/Medicine - Preservation of Meat, Mar/Apr 53  
Nutrition

"Adequate Communal and Therapeutic Diets at the  
Construction Works of the Main Turkmen Canal,"  
V.V. Efremov, M.S. Marshak, Inst of Nutrition,  
Acad Med Sci USSR

Vop Pit, Vol 12, No 2, pp 9-15

Meat can be preserved by treating it with neopan-  
tocide (neopantotsid) acc to a suggestion made by  
Prof D.A. Khristodulo of the Inst of the Meat In-  
dustry. Neopantocide, which has a strong bacteri-  
cidal action. was synthesized by V.A. Mikhalev and  
tested at the Inst of Nutrition. It preserves

256T35

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meat for 7 days at 22-36°C. This preservative  
will be used on a large scale in a field test  
planned for the summer of 1953.

MARSHAK, N.S.

[Dining rooms for therapeutic diets] Stolovaya lechebnogo pitaniia.  
Moskva, Gostorgisdat, 1953. 135 p. (MLBA 7:11)  
(Diet in disease)

GORYUSHIN, V.A.; MARSHAK, M.S., professor; POLTAVTSEV, A.N., inzhener-arkhitektor;  
KALININA, V.A., inzhener-tekhnolog [authors]; VLADIMIR, B. [reviewer].

"Hospital kitchens"; a manual for architects and organising physicians. Gig.  
i san. no.11:59-60 N '53. (MLRA 6:10)  
(Hospitals--Construction) (Kitchens)



1. MARSHAK, M.S.
2. USSR (600)
4. Diet in Disease
7. Diet for ambulatory patients and methods of organizing it., Vop.pit. 12 no. 2, 1953.
9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

MARSHAK, M.S., professor; YANCHENKO, O.I., sanitarnyy vrach.

Consultation. Vop.pit. 12 no.3:88-89 My-Je '53.

(MLBA 6:6)

1. Moskovskiy ryboobrabatyvayushchiy kombinat (for Yanchenko).

(Food, Canned)

MARSHAK, N.S.

Organization of therapeutic nutrition in regions of recently cultivated virgin and fallow lands. Vop. pit. 13 no.6:3-7 N-D 154.

1. Iz kliniki lechebnogo pitaniya (dir. F.K.Menshikov) Instituta pitaniya AMN SSSR, Moskva.

(DIETS, in various diseases,  
organiz. of ther. nutrition in Russia)

MARSHAK, M.S.; SELIVANOVA, T.P.

Organization of therapeutic diets at a rural hospital. Vop.pit 14  
no.5:54-55 S-O '55 (MLRA 8:11)

1. Iz kliniki lechebnogo pitaniya Instituta pitaniya AMN SSSR, Moskva.  
(HOSPITALS,  
food serv., menus for rural hosp.)  
(DIETS, in various diseases,  
diets for rural hosp.)

*Аннотация*

MARSHAK, M.S., professor; BAULIN, V.A., redaktor; MEDRISH, D.M.,  
tekhnicheskiiy redaktor.

[Menus for therapeutic diets] Dieticheskaya stolovaya;  
stolovaya lechebnogo pitaniya. Izd. 2-oe, perer. i dop.  
Moskva, Gos.izd-vo trgovoi lit-ry, 1955. 182 p.(MLRA 9:1)  
(DIETS IN DISEASE)

MARSHAK, M.S., professor

Berries. Zdorov's 1 no.7:25 J1 '55

(MIRA 9:5)

(BERRIES)

*MARSHAK M.S.*  
USSR/Medicine - nutrition

FD-3074

Card 1/1            Pub. 141 - 20/23

Author            : Marshak, M. S. (Moscow)

Title             : Concerning principles of constructing diets in therapeutic nutrition

Periodical        : Vop. pit., 52-55, May/Jun 1955

Abstract          : Criticizes the writings of A. M. Nogaller, F. K. Men'shikov and A. E. Sharpenak in previous issues of Vop. pit. concerning the construction of therapeutic diets, claiming insufficient scientific basis for compiling the diets. According to the author, therapeutic diets should be selected on the basis of their therapeutic action and on the action of the component elements of the diet, i.e. caloric value, chemical composition, physical properties. Three references (all USSR; all since 1940).

Institution       :

Submitted        :

MARSHAK, M.S., professor

Diet. Zdorov'e 2 no.3:14-15 Mr '56

(MLRA 9:6)

(DIET)



**MARSHAK, M.S.**

Organization of therapeutic nutrition in night dispensaries of industrial plants. Vop. pit. 15 no. 1: 48-52 Ja-F '56 (MLRA 9:4)

1. Iz Instituta pitaniya AMN SSSR, Moskva  
(INDUSTRIAL HYGIENE,  
night indust. dispensaries, ther. diets in)  
(DIETS, in various diseases,  
ther. diets in indust. night dispensaries)

MARSHAK, M.S. (Moskva)

Output norms for prepared foods in medical institutions. Vop.pit.  
15 no.6:51 N-D '56. (MLRA 9:12)  
(HOSPITAL ADMINISTRATION,  
food serv. (Rus))

МАРШАК-М.

Blood as nutritional product. M. Marshak. *Aysenye*  
*Ind. S.S.S.R.* 27, No. 2, 6-7 (1965). Blood of cattle and  
pigs possesses a great nutritional value. It contains vita-  
mins, enzymes, minerals, various phosphatides, and about  
17% proteins. The proteins are rich in the essential amino  
acids. The use of blood for human nutrition is stressed.  
100 g. of blood gives 75 cal. E. Warbicki

MARSHAK, N.S.

Organization of therapeutic and therapeutic and prophylactic nutrition  
in the U.S.S.R. in the last 40 years. Vop.pit. 16 no.5:30-35 S-O '57.

(MIRA 11:3)

1. Iz kliniki lechebnogo pitaniya (zav. - prof. F.K.Men'shkov)

Institut pitaniya AMN SSSR, Moskva.

(DIENTS, in various diseases,

ther. & ther.-prev. dietetics in Russia (Rus))

MARSHAK, M.S.

[Diet for pregnant women and nursing mothers] Pitanie beremennoi  
i materi kormiashelei grud'iu. Moskva, Medgiz, 1957. 47 p.  
(DIET) (MIRA 11:4)

**MARSHAK, M.S., professor**

**Gout. Zdorov'e 3 no.2:12-13 F '57.  
(GOUT)**

**(MLR 10:3)**

VLADIMIROV, B.D.; KOMENDANTOVA, M.V., kandidat meditsinskikh nauk;  
VERZHKHOVSKAYA, A.A., kandidat meditsinskikh nauk (Kiyev);  
YANOVSKAYA, B.I., doktor biologicheskikh nauk; MARSHAK, M.S.,  
professor

Advice from "Zdorov'e." Zdorov'e 3 no.2:30-31 F '57. (MLRA 10:3)  
(MILK) (SCARLET FEVER)

AUTHOR: Marshak, M.S., Professor

25-9-13/40

TITLE: Regimes for the Use of Food (Rezhim pitaniya)

PERIODICAL: Nauka i Zhizn', 1957, # 9, p 25-27 (USSR)

ABSTRACT: The article deals with dietetics, pointing out that science has made great progress in finding out the laws of nature pertaining to the composition of food and the most suitable time for eating. The author stresses the following essential facts: it is important to eat palatable food with frequent changes in the menu so that the organism can utilize it in the best possible way. The author recommends four meals a day at four hours' intervals. Breakfast should be substantial to supply the organism with new strength for the day. Lunch is recommended at 11 o'clock and should not be too rich to prevent the eater from getting sleepy during the following working hours. Dinner is proposed to be taken at 17 - 18 o'clock when the day's work is completed and should comprise more than one third of the daily ration. Supper should never be eaten later than 2 hours before bedtime, since late eating negatively affects sleep. As to night workers and children, their meals ought to be adapted according to the differing working hours, the basic rule being that strict observation of regular eating hours is the best way

Card 1/2



Regimes for the Use of Food

25-9-13/40

to keep one's organism in good shape.  
There are 4 figures.

AVAILABLE: Library of Congress

Card 2/2

MARSHAK, M.S. (Moskva)

Nutrition of the population of underdeveloped areas according to  
some bourgeois scientists. Vol. 11. 16 no. 3: 67-69 Ky-Je '57.

(NUTRITION, (MOSKOW 1957))  
in underdeveloped areas (Mosk))

MARSHAK, M.S.; PARAMONOVA, M.G.

Third all-Union conference on therapeutic diets. Vop.pit. 16 no.6:  
79-85 N-D '57. (MIRA 11:3)  
(DIET IN DISEASE)

MARSHAK, Maks Solomonovich; KAGANOVA, A.A., red.; MEDRISH, D.M., tekhn. red.

[Diet in disease] Dieticheskoe pitanie. Moskva, Gos. izd-vo torg.  
lit-ry, 1958. 159 p.

(MIRA 11:7)

(DIET IN DISEASE)

BORINSKAYA, Yekaterina N.; MEN'SHIKOV, Fedor Kuz'mich, red.; MARSHAK,  
Maks Solomonovich, red.

[Diet in disease; a manual for dieticians and cooks in  
hospitals] Lechebnoe pitanie; posobie dlia dietsester and  
povarov bol'nichnykh uchreshdenii, pod red. F.K.Men'shikova i  
M.S.Marshaka. Moskva, Medgiz, 1958. 395 p. (MIRA 12:6)  
(DIET IN DISEASE) (COOKERY FOR THE SICK)

MARSHAK, M.<sup>S.</sup>, prof., doktor med.nauk

Improve the operation of special diet lunchrooms for the sake of  
the health of workers. Obshchestv. pit. no.4:49-50 Ap '58.

(MIRA 11:4)

(Employees lunchrooms, cafeterias, etc.)

(Diet kitchens)

**MARSHAK, M.S., prof., SOKOLOVSKIY, V.P., prof. (Moscow)**

Third All-Union Conference on Diet Therapy. Klin.med. 36 no.4:  
147-151 Ap'58 (MIRA 11:5)

1. Iz kliniki lechebnogo pitaniya Instituta pitaniya AMN SSSR  
(sav. - prof. F.K. Men'shikov)  
(DIET IN DISEASE—CONGRESSES)

BORINSKAYA, Ye.N.; GLUBINA, A.Yu.; MARSHAK, M.S.; SERGEYEVA, M.A.;  
SOROKIN, G.Ye.

Dietary regimen for patients with heart failure [with summary in  
English] Vop.pit.17 no.2:32-39 Mr-Apr '58. (MIRA 11:4)

1. Iz nauchno-organizatsionnogo otdeleniya (zav. - prof. M.S.  
Marshak) Kliniki lechebnogo pitaniya i laboratorii obmena veshchestv  
i energii (zav. - prof. O.P.Molchanova) Instituta pitaniya AMN  
SSSR, Moskva.

(CONGESTIVE HEART FAILURE, therapy  
dietary regimen (Rus))

(DIETS, therapeutic use  
congestive heart failure (Rus))



МАРШАК, М.С.

MARSHAK, M.S., prof.

Dietary regimen. Zdorov'e 4 no.1:27-29 Ja '58. (MIRA 11:2)  
(CORPULENCE) (DIET IN DISEASE)

MARSHAK, M.S., prof.

About fruit. Zdorov'e 4 no.8:25-26 Ag'58  
(FRUIT)

(MIRA 11:7)

MARSHAK, M.S., prof.

Salt. Zdorov'e 4 no.9:11 S '58  
(SALT)

(MIRA 11:10)

MARSHAK, M.S., prof.

Spices. Zdorov'e 4 no.12:28 D '58  
(SPICES)

(MIRA 11:12)

MARSHAK, M.S.

"Public health in the people's Poland" [in Polish] by M.Kasprzak,  
B.Kozusznik. Reviewed by M.S.Marshak. Vop.pit. 17 no.3:91-92  
My-Je '58. (MIRA 11:6)

(POLAND--PUBLIC HEALTH)  
(KASPRZAK, M.) (KOZUSZNIK, B.)

MARSHAK, M.S. (Moskva)

Planning and equipping dietary departments. Vop.pit 17 no.6:

68-69 H-D '58.

(MIRA 12:2)

(HOSPITALS

food serv. (Rus))

MARSHAK, Make Solomonovich, prof., doktor med.nauk; SUKHOV, A.D., red.;  
~~AKHOSHCHENKO, D.I.,~~ tekhn.red.

[Diet and health] Pitanie i zdorov'e. Moskva, Izd-vo "Znanie,"  
1959. 30 p. (Vsesoiuznoe obshchestvo po rasprostraneniin  
politicheskikh i nauchnykh znani. Ser.8, Biologiya i meditsina, 3)  
(DIET) (MIRA 12:2)

MARSHAK, M. S.

AGGKEYEV, P.K., prof.; ANDREYEVA-GALANINA, Ye.TS., prof.; BASHENIN, V.A.,  
prof.; BENENSON, M.Ye., doktor med.nauk; VYSHEGORODTSEVA, V.D.,  
prof.; GESSEN, A.I., dotsent; GUTKIN, A.Ya., prof.; ZHDANOV, D.A.,  
prof., laureat Stalinskoy premii; ZNAMENSKIY, V.F., prof.;  
KLIONSKIY, Ye.Ye., prof.; MONASTYRSKAYA, B.I., prof.; MOSKVIN,  
I.A., prof.; MUCHNIK, L.S., kand.med.nauk; PETROV-MASLAKOV, M.A.,  
prof.; RUBINOV, I.S., prof.; RYSS, S.M., prof.; SMIRNOV, A.V.,  
prof., zasluzhennyy deyatel' nauki; TIKHOMIROV, P.Ye., prof.;  
TROITSKAYA, A.D., prof.; UDINTSEV, G.N., prof.; UFLYAND, Yu.M.,  
prof.; FEDOROV, V.K., prof.; KHILOV, K.L., prof., zasluzhennyy  
deyatel' nauki; VADKOVSKAYA, Yu.V., prof.; MARSHAK, M.S., prof.;  
PETROV, M.A., kand.med.nauk; POSTNIKOVA, V.M., kand.med.nauk;  
RAPOPORT, K.A., kand.biolog.nauk; ROZENTUL, M.A., prof.; YANKE-  
LEVICH, Ye.I., kand.med.nauk; LYUDKOVSKAYA, N.I., tekhn.red.

[Book on health] Kniga o zdorov'ye. Moskva, Gos.izd-vo med.lit-ry,  
Medgiz, 1959. 446 p. (MIRA 12:12)

1. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for  
Zhanov, Udintsev). 2. Leningradskiy sanitarno-gigiyenicheskiy me-  
ditsinskiy institut (for all, except Vadkovskaya, Marshak, Petrov,  
Postnikova, Rapoport, Rozentul, Yankelevich, Lyudkovskaya).  
(HYGIENE)



MARSHAK, M., prof.

Milk and health. Obshchestv.pit. no.3:51-52 Mr '59.

(MIRA 12:4)

(Milk)

MARSHAK, M.S., prof.

Limiting diets. Zdorov'e 5 no.6:26-27 Je '59. (MIRA 12:11)  
(DIET IN DISEASE)

MARSHAK, M.S., prof.

Fruit-type vegetables. Zdorov'e 5 no.9:25-27 S '59.  
(MIRA 12:11)  
(VEGETABLES)

MARSHAK, M., prof.

There should be no flaws in the organization of therapeutic nutrition.  
Okhr.truda i sots.strakh. no.8:29-31 Ag '59. (MIRA 12:11)  
(Diet kitchens)

MARSHAK, M.S., prof. (Moskva)

Significance of milk in adult nutrition. Sov.sdrav. 18 no.12:24-27  
'59. (MIRA 13:4)

(MILK nutrition & diet)

MARSHAK, M.S.

Gout. Rab. i sial. 35 no. 4:22 Ap '59.  
(GOUT)

(MIRA 12:12)

MARSHAK, M.S., prof.

Natural products. Zdorov'e 6 no.4:27-28 Ap '60.  
(FOOD, PAW)

(MIRA 13:8)

MARSHAK, M. prof.

Natural products in food. Obshchestv.pit. no.9:60-61 S '60.

(MIRA 13:11)

(Food)



MARSHAK, M.S., prof.

Protein rusks and bread. Zdorov'e 6 no.9:31 8 '60. (MIRA 13:8)  
(DIET IN DISEASE) (BREAD)

MARSHAK, M.S., prof.

Is herring good for everyone? Zdorov'e 6 no.10:31 0 '60.

(MIRA 13:9)

(FISH AS FOOD)

(HERRING)

MARSHAK, M.S., prof.

Nuts. Zdorov'e 6 no. 11:25-26 N '60.  
(NUTS)

(MIRA 13:10)

MARSHAK, M., prof.; GRUBINA, A., starshiy nauchnyy sotrudnik

Healthy food. Mast.ugl. 9 no.2:30 F '60.

(MIRA 13:7)

1. Institut pitaniya AMN SSSR (for Grubina).  
(NUTRITION)